

ML-6000X / ML-6000X Pro

New generation digital dispenser



NEW

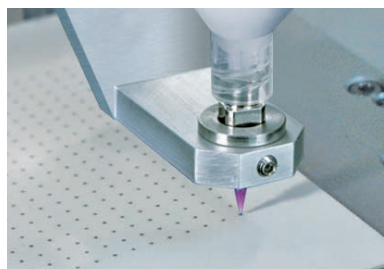
*High grade
model*



Features of next-generation dispenser

Excellent Dispensing Capability

Installed with air-pulse stabilizing circuit (PAT). Elimination of dispensing volume fluctuation, implementation of excellent dispensing accuracy.



Next-generation Functions

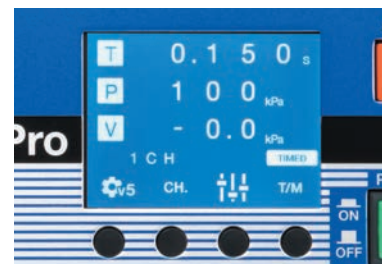
Simplified Log function (Parameters recording: various dispensing pressure, dispensing time, channel, dispensing mode).

Other Enhanced Features | Simplified remaining volume detection / Interval function / Channels registration / Channels switching / Error output / Alarm output



User-friendly

2.4 inch Color graphic LCD display for easy setting & operation
Multi-language support (JPN, ENG, CHN).



- Correspond to Industry 4.0, various abnormal error output. ■ Simplified Log function.
- Simplified remaining volume detection function. ■ Channels can be registered by a variety.
- Lineup of general purpose and high resolution vacuum specification.
- Standard lineup with PNP specification for I/O input/output signals

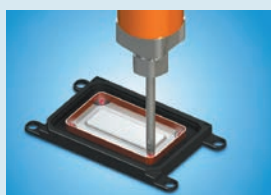
Features of ML-6000X Pro

- Pressure setting can be set from the device side.
- Dispensing pressure can be selected from 2 types.

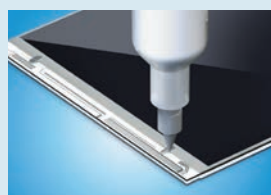
Dispensing Application



Dispensing UV on Camera Module



Speaker Vibration Membrane Attachment



Dispensing Ag Paste on Touch Panel



Pressure Sensor Potting

ML-5000X II / ML-6000X Series comparison

Item		ML-5000X II (conventional model)	ML-6000X	ML-6000X Pro V5	ML-6000X Pro V2	
Dispensing performance	Pressure range	5 to 700 kPa	5 to 700 kPa	30 to 500 kPa	5 to 200 kPa	
	Dispensing volume precision	±2.01%	±1.96%	±1.86%	±1.72%	
	Dispensing pressure control system	Manual control	Manual control	Automatic control		
Operation interface	Display	Display type	7-segment LED	2.4 inch color LCD		
		Displayable information	Numbers	Icons, letters, numerical value		
		Supported languages	-	Japanese / English / Chinese		
	Operation	Digi-switch	Mechanical switch			
I/O interface	Metal connector	●	● (Conversion option)			
	Dsub I/O	-	●			
Data communications	RS-232C	-	●			
Power	Input form	AC power cord	AC adapter			
	Supports 24 V DC input	-	●			
Function	Dispensing condition management	The number of channels	-	100ch		
		Name registration	-	●		
	Production control	Auto-increment	-	-	●	
		Auto-slope	-	-	●	
	others	Interval dispensing	-	●		
		Pressure unit switching (kPa / bar)	-	●		
I / O check mode		-	●			

Compact size

conventional model

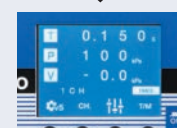


ML-6000X Series

Improved display visibility



conventional model
4-digit LED digital display



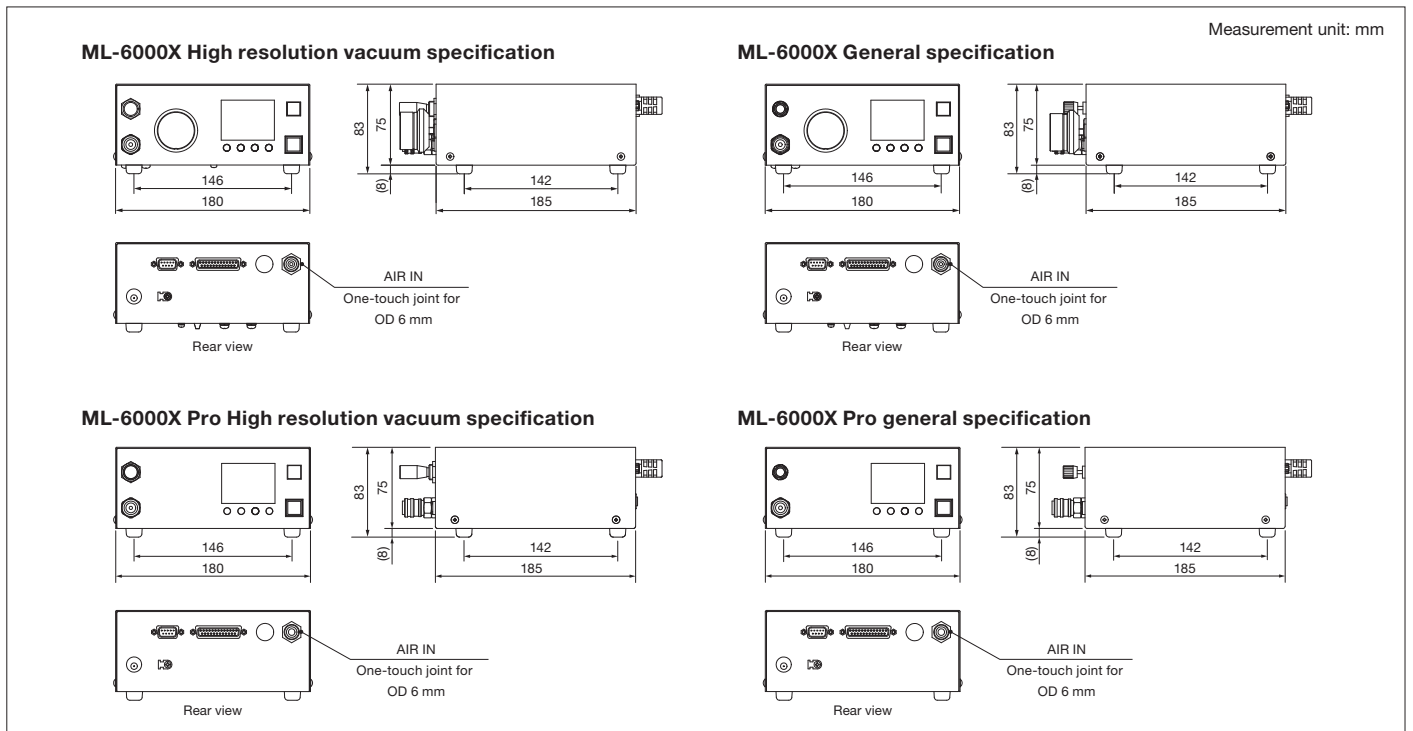
ML-6000X Series
2.4 inch color graphic LCD display

Specifications

Description		High Precision Digital Dispenser											
Model	ML-6000X-CTR				ML-6000XP-CTR								
	-N-VHR	-P-VHR	-N-GP	-P-GP	-V5-N-VHR	-V5-P-VHR	-V2-N-VHR	-V2-P-VHR	-V5-N-GP	-V5-P-GP	-V2-N-GP	-V2-P-GP	
Dispense method	Air-pulse type												
Control system	Microprocessor digital control system												
Display	2.4 inch color graphic LCD												
Dispensing mode	Timed mode, manual mode												
Dispensing pressure adjustment range	5 to 700 kPa				30 to 500 kPa		5 to 200 kPa		30 to 500 kPa		5 to 200 kPa		
Dispensing time setting range	0.001 to 99.999 sec, 0.01 to 999.99 sec, 0.1 to 9,999.9 sec(Enable to switch digits by Icon Keys)												
Vacuum pressure setting range	0 to -20.0 kPa (Source pressure 600 kPa)				0 to -20.0 kPa (Source pressure 600 kPa)		0 to -10.0 kPa (Source pressure 400 kPa)		0 to -20.0 kPa (Source pressure 600 kPa)		0 to -10.0 kPa (Source pressure 400 kPa)		
Vacuum pressure control system	Precision needle valve (Approx. -1 kPa per a turn)		Standard needle valve (Approx. -4 kPa per a turn)		Precision needle valve (Approx. -1 kPa per a turn)				Standard needle valve (Approx. -4 kPa per a turn)				
Main function	Operation history, Dispensing shot counter, Residue alarm, Pressure error, Solenoid valve alarm, Channel registration, Channel switching, Channel copy, Key lock, Interval dispensing, Display language switching, Manual/Timed mode switching, Stopwatch				Operation history, Dispensing shot counter, Residue alarm, Pressure error, Solenoid valve alarm, Channel registration, Channel switching, Channel copy, Key lock, Interval dispensing, Display language switching, Manual/Timed mode switching, Stopwatch, Auto-increment function, Auto-slope function								
The number of channels	100CH												
RS-232C serial communication	1 port												
External input/ output signal (D-sub I/O)	Connector	D-sub25 (socket)											
	Signal specification	NPN	PNP	NPN	PNP	NPN	PNP	NPN	PNP	NPN	PNP	NPN	PNP
	Input	Optocoupler input DC24 V, 5 mA Dispensing, preset, dispensing enabled, step, dispensing mode switching											
	Output	Optocoupler open collector output DC24V, 10mA or below Dispensing completion, solenoid valve alarm, power on, ready, In-dispensing, alarm, error				Optocoupler open collector output DC24V, 10mA or below Dispensing completion, solenoid valve alarm, power on, ready, In-dispensing, alarm, error, auto-increment completion							
Source pressure	Connection specifications	One-touch joint for OD 6 mm											
	Range	Max. 800 kPa (Dispensing pressure + 100 kPa or more)				Max. 800 kPa (Dispensing pressure + 100 kPa or more)		Max. 400 kPa (Dispensing pressure + 100 kPa or more)		Max. 800 kPa (Dispensing pressure + 100 kPa or more)		Max. 400 kPa (Dispensing pressure + 100 kPa or more)	
Rated current and frequency	When supplying from a DC24V DSUB25 pin/when supplying from a DC12V DC jack *1 *2												
Power consumption	12 W												
Usage environment (indoor only)	Temperature: 15 to 35°C, Humidity: 30 to 75% (without condensation), Altitude: below 2,000 m												
Storage environment	Temperature: 1 to 60°C, Humidity: 30 to 80%(without condensation)												
External dimensions (excluding protrusion part)	W180×D185×H83 mm												
Weight	2.2 kg		2.1 kg		2.2 kg				2.0 kg				
Compatible specification	EU RoHS2, CE marking (EMC directive)												

* 1 The AC adapter is not included in the product. * 2 Use one of the following methods to supply power.
 ·Use our ACAT-2 (input rating AC100-240 V 50 / 60 Hz).
 ·Use an AC adapter conforming to EN-62368-1:2014 (Conforming plug: φ5.5×2.1, L=9.5, center plus)
 ·Use a SELV power supply that meets the CE marking LVD matching standard.

External dimensions diagram



System configuration



Syringe



Cartridge



Desktop and gantry robots



FA dispense machine

Peripheral equipment / options

Temperature control system



High precision dispensing of high-viscosity materials is achieved, even if material viscosity is changed by environmental temperatures

Syringe centrifugal degasser



Degassing possible just by setting syringes and pressing the button. Equipped with abnormal vibration detector.

Simple syringe filling unit



Quick and easy syringes filling with small volumes from fluid material containers, without bubbles.

Handy switch



This switch attached to the tip of the syringe is used to control dispensing ON/OFF by hand. Soft-touch operation capability to reduce nozzle tip deviation. Ensures accurate dispensing operations.

Foot switch



This switch is used to control dispensing ON/OFF with your foot.

Handy switch compatible Syringe stand



This stand is for storing syringes upright during and after operations. Select as appropriate for the syringe size in use.

Model: ①5 mL use SYS-5B/②10 mL use SYS-10B
③20 mL use SYS-20B/④30 mL use SYS-30B
⑤50 mL use SYS-50B



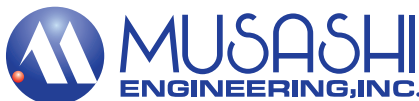
Safety precautions

Please read the instruction manual carefully before use to ensure correct and safe usage.

*These specifications are subject to change without any notice.

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